REMARKS

Favorable reconsideration is respectfully requested.

The claims are 1 to 11.

The above amendment places the claims in "consisting essentially of" format.

The significance of this amendment will become further apparent from the remarks below.

Claims 1 to 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakiya et al. (U.S. 6,638,899).

This rejection is respectfully traversed..

A brief discussion of the present invention will be of assistance in appreciating Applicants' reasons for traversal of the rejection.

The cleaning liquid of the present invention comprises in specific amounts of components (a)-(c) for the use of stripping and dissolving a thick photoresist pattern of 10 to 150 µm, and is suitably applied especially for the formation of a bump in the production of a semiconductor. It is capable of not only stripping a thick photoresist pattern to be used for bump formation, etc., from a substrate but also rapidly and completely dissolving the stripped photoresist pattern without re-adhesion to the substrate or the subsequent substrate(s).

The cleaning liquid allows a photo-cured thick pattern be stripped away from a substrate and be rapidly dissolved even in the case where the pattern is made of a negative-working photopolymerizable photoresist, which has hitherto been considered to be difficult for complete removal or to take a long period of time for removal, and further, even the pattern is thickly formed at 10-150 µm.

The invention exhibits effects such as rapid stripping from a substrate and rapid dissolution of the cured pattern after being stripped away.

Also, the invention is able to effectively prevent corrosion of the metallic thin film and bumps (conductive layer) on the substrate.

Further, the present invention can prevent a formation of a degenerated film at the interface between the bump and the photoresist pattern (see descriptions of page 12, line 22 to page 13, line 18 in the specification).

Turning to the cited reference, Wakiya et al ('899) contains as component (a) a salt of hydrofluoric acid with a base free from metal ions, wherein a lower alkyl quaternary ammonium salt, such as TMAH, is exemplified as the base free from metal ions. The most preferred component (a) is ammonium fluoride (NH_4F) (see col. 3, lines 49-50).

In contrast, a quaternary ammonium hydroxide of formula (I) in the present invention does not form a salt with hydrofluoric acid. The cleaning liquid does not contain hydrofluoric acid. Furthermore, the quaternary ammonium hydroxide of formula (I) does not include TMAH, which is exemplified as preferred in Wakiya et al (see col. 3, line 39).

In addition, Wakiya et al does not teach or suggest the use of a liquid composition for stripping and dissolving a thick photoresist pattern of 10 - 150 μm.

The examples in Wakiya et al are conducted by using positive-working photoresists having thickness of merely 0.2 μm (see col. 11, line 54).

In the event that the Examiner is considering a rejection under 35 U.S.C. 103, please note that Wakiya and the present application were presently assigned at the time that the present application was made, thus precluding such rejection.

Also note the "consisting essentially of" terminology of the present claims which excludes the salts of Wakiya et al.

To conclude, Wakiya neither discloses nor suggests the composition or the method of the present claims.

Claims 1 to 11 are rejected under 35 U.S.C. 102(e)as being anticipated by Sahbari et al. (U.S. 6,531,436).

This rejection is respectfully traversed.

Sahbari et al contains a polymer dissolution enhancing base, wherein tetra (C_1-C_6)alkylammonium hydroxide, such as TMAH, etc., are exemplified as preferred ones (see col. 3, lines 59-64).

However, Sahbari et al does not teach or suggest the selective usage of a quaternary ammonium hydroxide of formula (I) in the present invention. The compounds of formula (I) do not include TMAH.

Furthermore, Sahbari et al contains, as an essential component, corrosion inhibitors, but the cleaning liquid of the present invention does not contain it as an essential component.
In addition, Sahbari et al does not teach or suggest the use of a liquid composition for stripping and dissolving a thick photoresist pattern of 10-150 μm.

Sahbari et al thus does not teach the composition or method of the present claims.

Claims 1 to 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanabe et al. (U.S. 6,261,745).

This rejection is respectfully traversed.

Tanabe et al. contains as component (a) a salt of hydrofluoric acid with a base free from metal ions, wherein a lower alkyl quaternary ammonium salt, such as TMAH, is exemplified as the base free from metal ions. The most preferred component (a) is ammonium fluoride (NH_4F) (see col. 4, lines 36-38).

In contrast, the quaternary ammonium hydroxide of formula (I) in the present invention does not form a salt with hydrofluoric acid. The cleaning liquid does not contain hydrofluoric acid. Furthermore, the quaternary ammonium hydroxide of formula (I) does not include TMAH, which is exemplified as preferred in Tanabe et al (see col. 4, line 25).

Furthermore, Tanabe et al contains, as an essential component, an acetylene alcohol/alkylene oxide adduct, but the cleaning liquid of the present invention does not contain it as an essential component. Note the "consisting essentially of" terminology of the present claims.

In addition, Tanabe et al does not teach or suggest the use of a liquid composition for stripping and dissolving a thick photoresist pattern of 10 - 150 μm.

The examples in Tanabe et al are conducted by using positive-working photoresists having thickness of merely 0.2 μm (see col. 9, line 33).

Tanabe et al. thus does not teach the composition or method of the present invention.

Also note that Tanabe and the present application were commonly assigned at the time that the present application was made.

Claims 1 to 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakiya et al. (U.S. 2003/0138737 A1).

Wakiya et al ('737) contains, as essential components, a water-soluble amine and a corrosion inhibitor, but the cleaning liquid of the present invention does not contain them as essential ones. Note the "consisting essentially of" terminology of the present claims.

In addition, Wakiya et al does not teach or suggest the use of a liquid composition for stripping and dissolving a thick photoresist pattern of 10 - 150 μm.

The examples in Wakiya et al are conducted by using positive-working photoresists having a thickness of merely 0.7 μm (see [0089]).

Wakiya et al does not teach the composition or method of the present claims.

Further, please note that Wakiya and the present application were commonly assigned at the time that the present application was made.

Lastly, a Claim of Priority based on Applicants' Japanese priority application accompanies.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Shigeru YOKOI et al.

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ACCOUNT NO. 23-0975

By: Matthew Jacob
Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

MJ/kes
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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